

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

CELLINK CORP.,
Plaintiff,

v.

MANAFLEX LLC,
Defendant.

Case No. 23-cv-04231-HSG

CLAIM CONSTRUCTION ORDER

Re: Dkt. No. 157

On August 18, 2023, Plaintiff CelLink Corp. filed this action against Defendant Manaflex LLC (“Manaflex”) for patent infringement, trade secret misappropriation, and correction of inventorship.¹ Dkt. No. 1. The parties now seek construction of ten terms found in the three asserted patents. Dkt. Nos. 157 (“CelLink Br.”), 160 (“Manaflex Br.”), 163 (“CelLink Reply Br.”). This order follows claim construction briefing and a claim construction hearing.

I. BACKGROUND

CelLink accuses Manaflex of infringing U.S. Patent Nos. 11,116,070 (the “’070 Patent”); 12,035,459 (the “’459 Patent”); and 12,040,511 (the “’511 Patent”) (collectively, the “Asserted Patents”). Dkt. No. 132 (“SAC”). “The Asserted Patents all relate to [] interconnect circuits for use in a variety of different applications, including battery packs, solar arrays, vehicles, and light fixtures, among others, and methods of forming the same.” CelLink Br. at 6.²

¹ CelLink’s initial complaint only brought claims for patent infringement of U.S. Patent No. 11,116,070 and trade secret misappropriation. Dkt. No. 1 ¶¶ 26–43. CelLink’s first amended complaint added claims for patent infringement of U.S. Patent Nos. 12,035,459 and 12,040,511 and correction of inventorship. Dkt. No. 106 ¶¶ 60–105, 116–130.

² For ease of reference, the Court refers to the PDF pages rather than the document’s internal pagination unless otherwise noted.

A. The '070 Patent

The '070 Patent is entitled “Interconnect Circuit Methods and Devices” and issued on September 7, 2021. Dkt. No. 157-4 (“’070 Patent”). The '070 Patent describes “interconnect circuits and methods of forming thereof.” *Id.*, Abstract. As explained in the specification, prior art electrical interconnects “ha[d] limited functionality and [were] limited to a relatively small set of material choices.” *Id.* at 1:22–44. The specification proposes as a solution “new methods of forming interconnect circuits that provide new designs and functionalities of these circuits, including complex patterns and shapes of conductive layers, new materials and features in insulating layers, thermal properties, low weight for a given electrical current, and the like.” *Id.* at 1:45–50. The specification goes on to describe a method that “may involve laminating a substrate to a conductive layer followed by patterning the conductive layer.” *Id.* at 1:55–57. “This patterning operation forms individual conductive portions, which may be also referred to as traces or conductive islands.” *Id.* at 1:57–59. “The substrate supports these portions relative to each other during and after patterning[,]” and “[a]fter patterning, an insulator may be laminated to the exposed surface of the patterned conductive layer.” *Id.* at 1:59–62. “At this point, the conductive layer portions are also supported by the insulator, and the substrate may optionally be removed, e.g., together with undesirable portions of the conductive layer.” *Id.* at 1:62–65. “Alternatively, the substrate may be retained as a component of the circuit and the undesirable part of the patterned conductive layer may be removed separately.” *Id.* at 1:65–2:1. “These approaches allow using new patterning techniques as well as new materials for substrates and/or insulators.” *Id.* at 2:1–3.

The '070 Patent has one independent claim—claim 1—which recites:

A method of forming an interconnect circuit, the method comprising:

laminating a substrate to a conductive layer,

wherein the conductive layer is a metal foil, comprising a first side and a second side, opposite of the first side, and having a constant thickness, and

wherein the substrate comprises an adhesive layer, laminated to the second side of the conductive layer;

patterning the conductive layer, while the conductive layer remains

laminated to the substrate,

wherein patterning the conductive layer forms a first conductive portion and a second conductive portion of the conductive layer, at least partially separated from the first conductive portion,

wherein the substrate maintains orientation of the first conductive portion relative to the second conductive portion after patterning the conductive layer;

after patterning the conductive layer, laminating a first insulator to the first side of the conductive layer; and

after laminating the first insulator to the first side of the conductive layer, removing the substrate from the conductive layer,

wherein the first insulator maintains the orientation of the first conductive portion relative to the second conductive portion after the substrate is removed.

Id. cl. 1. Dependent claims 2–20 of the '070 Patent recite the method of independent claim 1 with additional limitations.

B. The '459 Patent

The '459 Patent is entitled “Methods of Forming Flexible Interconnect Circuits” and issued on July 9, 2024. Dkt. No. 157-2 (“’459 Patent”). The '459 Patent and '070 Patent are in the same patent family and share the same specification.

The '459 Patent has three independent claims—claims 1, 21, and 23. Claim 1 recites:

A method of forming a flexible interconnect circuit, the method comprising:

laminating a substrate to a conductive layer, wherein:

the conductive layer comprises a first side and a second side, opposite of the first side, and

the substrate is laminated to the second side of the conductive layer;

patterning the conductive layer using one or more of laser cutting and laser ablation while the conductive layer remains laminated to the substrate, wherein:

patterning the conductive layer forms a first conductive portion and a second conductive portion of the conductive layer, at least partially separated from the first conductive portion,

patterning the conductive layer further forms a third conductive portion of the conductive layer, separated by a first pattern opening from the first conductive portion and also separated by a

second pattern opening from the second conductive portion,

patterning the conductive layer comprises removing the third conductive portion from the substrate thereby forming a pattern opening in place of the first pattern opening, the third conductive portion, and the second pattern opening, and

the substrate maintains orientation of the first conductive portion relative to the second conductive portion during and after patterning;

laminating a first insulator to the first side of the conductive layer while the conductive layer remains laminated to the substrate;

removing the substrate from the conductive layer, wherein the first insulator maintains the orientation of the first conductive portion relative to the second conductive portion while and after the substrate is removed; and

laminating a second insulator to the second side of the conductive layer while the first insulator remains laminated to the first side of the conductive layer, wherein:

the first insulator comprises a first-insulator opening prior to laminating the first insulator to the first side of the conductive layer,

the second insulator comprises a second-insulator opening prior to laminating the second insulator to the second side of the conductive layer, and

the first-insulator opening and the second-insulator opening coincide with each other and are aligned relative to the first conductive portion of the conductive layer thereby allowing access to the first conductive portion of the conductive layer from each of the first side and the second side.

Id. cl. 1. Dependent claims 2–20 recite the method of independent claim 1 with additional limitations. Independent claims 21 and 23 recite a “method of forming an interconnect circuit” with limitations similar to those recited in independent claim 1. *See id.* cls. 21, 23.

C. The ’511 Patent

The ’511 Patent is entitled “Battery Interconnects” and issued on July 16, 2024. Dkt. No. 157-6 (“’511 Patent”). The ’511 Patent is directed to “interconnects for interconnecting a set of battery cells, assemblies comprising these interconnects, methods of forming such interconnects, and methods of forming such assemblies.” *Id.*, Abstract. The specification describes shortcomings with prior art electrical interconnects. For example, “[m]any conventional battery packs [were] assembled using bulky metal plates with complex features[,]” which were “used for

1 interconnecting individual battery cells in packs and to carry current among these cells and/or
 2 terminals of the packs.” *Id.* at 1:54–58. “The [metal] plates [were] frequently wired to the
 3 individual cells using separate fuse or connector wires,” but “[t]hese fuse wires [were] fragile and
 4 [] prone to breakage under the stress and vibration conditions typically encountered in the field.”
 5 *Id.* at 1:59–65. Additionally, “each plate [was] typically attached to the cells as a freestanding
 6 component[,]” and “[t]his individualized assembly dr[ove] up costs and the overall complexity of
 7 manufacturing the pack, which in turn negatively impact[ed] the safety and robust performance of
 8 the battery packs.” *Id.* at 1:65–2:3.

9 As described in the specification, “[a]n interconnect includes a conductor comprising two
 10 or more portions electrically isolated from each other.” *Id.* at 2:11–12. “At least one of these
 11 portions may optionally include two contacts for connecting to battery cells and a fuse forming an
 12 electrical connection between these two contacts.” *Id.* at 2:12–15. “The interconnect may also
 13 include an insulator adhered to the conductor and mechanically supporting the two portions of the
 14 conductor.” *Id.* at 2:15–18. “The insulator may include an opening such that the fuse overlaps
 15 with this opening, and the opening does not interfere with the operation of the fuse (e.g., its
 16 thermal characteristics).” *Id.* at 18–22. The specification describes various embodiments which
 17 improve upon the prior art. *Id.* at 2:22–4:14. For example, in certain embodiments, “the fuse may
 18 not directly interface with any other structures thereby allowing for a more controlled operation of
 19 the fuse.” *Id.* at 2:22–24. In other embodiments, a “temporary substrate may be adhered to the
 20 contacts of the conductor through openings in the insulator and provide mechanical support to
 21 these contacts at least until the interconnect is used for interconnecting the battery cells, after
 22 which the temporary substrate is removed.” *Id.* at 2:21–32.

23 The ’511 Patent has three independent claims—claims 1, 18, and 20—and 17 dependent
 24 claims. Claim 1 recites:

25 An interconnect circuit for interconnecting battery cells, the
 26 interconnect circuit comprising:

27 a conductive layer comprising conductive layer islands, each
 28 comprising a contact pad, a fusible link, and a remaining portion,
 wherein:

the fusible link forms an electrical connection between the contact pad and the remaining portion,

the fusible link is configured to control a current flowing between the contact pad and the remaining portion and to break when the current exceeds a set threshold,

the contact pad, the fusible link, and the remaining portion are monolithic with each other, and

the conductive layer is a rolled metal foil comprising aluminum that has an in-plane elongated grain structure thereby increasing fatigue life of the fusible link; and

an insulating layer laminated to at least a portion of the conductive layer, wherein the insulating layer mechanically supports and maintains registration of the conductive layer islands relative to each other.

Id. cl. 1. Notably, for purposes of claim construction, dependent claim 5 recites the method of claim 1 “the fusible link is freestanding and does not overlap with the insulating layer.”

II. LEGAL STANDARD

Claim construction is a question of law to be determined by the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996). “The purpose of claim construction is to determine the meaning and scope of the patent claims asserted to be infringed.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (quotation omitted). Accordingly, “[w]hen the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *Id.* at 1362; *see also Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319 (Fed. Cir. 2016) (finding legal error in trial court’s decision not to construe terms despite fundamental dispute between parties).

It is “a basic principle of claim construction . . . that ‘the words of a claim are generally given their ordinary and customary meaning.’” *Source Vagabond Sys. Ltd. v. Hydrapak, Inc.*, 753 F.3d 1291, 1299 (Fed. Cir. 2014) (quoting *Philips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005)). There are only two circumstances where a claim is not entitled to its plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

In determining the ordinary and customary meaning, the claim language “provide[s]

substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314. Additionally, “the context in which a claim term is used in the asserted claim can be highly instructive.” *Id.* However, a person of ordinary skill in the art is “deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.* at 1313. The specification “is always highly relevant to the claim construction analysis” and is usually “dispositive.” *Id.* at 1315. The scope of the claims must be “determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim.” *Id.* at 1316 (quotation omitted). Thus, the construction that “stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* In addition to the claims and the specification, the prosecution history may be used “to provide[] evidence of how the PTO and the inventor understood the patent.” *Id.* at 1317. “[A]ny explanation, elaboration, or qualification presented by the inventor during patent examination is relevant, for the role of claim construction is to capture the scope of the actual invention that is disclosed, described and patented.” *Fenner Inv., Ltd. v. Celco P’ship*, 778 F.3d 1320, 1323 (Fed. Cir. 2015) (quotation omitted). The claims, specification, and prosecution history together constitute the “intrinsic evidence” that forms the primary basis for claim construction. *Phillips*, 415 F.3d at 1312–17 (citation omitted).

Courts may also consider extrinsic evidence, such as dictionaries, treatises, and expert opinions, if it is “helpful in determining the ‘true meaning of language used in the patent claims’ ” and is not contradicted by the intrinsic evidence. *Id.* at 1318 (quoting *Markman*, 52 F.3d at 980). For example, dictionaries may reveal what the ordinary and customary meaning of a term would have been to a person of ordinary skill in the art at the time of the invention. *Frans Nooren Afdichtingssystemen B.V. v. Stopaq Amcorr Inc.*, 744 F.3d 715, 722 (Fed. Cir. 2014) (“Terms generally carry their ordinary and customary meaning in the relevant field at the relevant time, as shown by reliable sources such as dictionaries, but they always must be understood in the context of the whole document—in particular, the specification (along with the prosecution history, if pertinent).”). Expert testimony can also help “to ensure that the court’s understanding of the

technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Extrinsic evidence is, however, “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* at 1317 (quotation omitted).

III. DISPUTED TERMS

A. The '070 and '459 Patents

- i. “at least partially damages the substrate such that the substrate is able to maintain the orientation of the first conductive portion relative to the second conductive portion during and after patterning” ('459 Patent, claims 2, 23)

Cellink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning (i.e., “as long as”) ³	“at least partially damages the substrate so that the substrate is able to maintain the orientation of the first conductive portion relative to the second conductive portion during and after patterning”

The parties’ dispute over this term centers around the meaning of “such that.” Manaflex proposes “so that” be substituted for “such that” to “convey[] the explicitly-recited cause and effect relationship recited in claims 2 and 23” Manaflex Br. at 11. Manaflex argues that dependent claims 2 and 23 “recite that the patterning used to design the flexible circuit ‘damages’ the substrate[,]” and “[t]hat ‘damage,’ in turn, results in the substrate being ‘able’ to maintain the orientation of the first and second conductive portions” *Id.* Cellink counters that Manaflex’s construction ignores the teachings of the specification. Cellink Br. at 9–11. According to Cellink, “as taught in the specification, the damage to the underlying substrate is not done for the purpose of maintaining the orientation.” *Id.* at 10. “Rather, the ’459 Patent’s specification conveys that should any damage happen to the substrate, that damage should still allow the first and second conductive portions to maintain their orientation.” *Id.*

The Court agrees with Cellink: the plain and ordinary meaning of this term is not limited

³ During the hearing, Cellink proposed the plain and ordinary meaning of “such that” to be “as long as.”

to one requiring a causal effect. The specification describes embodiments in which “the substrate may be damaged while patterning the conductive layer *as long as* the substrate can *maintain* the orientation of different conductive layer portions during patterning and after patterning” ’459 Patent at 5:30–35 (emphasis added); *see also id.* at 9:42–53 (“The damage may be substantial, as long as the substrate 220 is still capable of *maintaining* the relative orientations of first conductive portion 212a and second conductive portion 212b.”) (emphasis added). The specification does not describe a “cause-and-effect” relationship, as Manaflex argues, but a desired result—that the damage to the substrate still allow the substrate to “maintain the orientation of the first conductive portion relative to the second conductive portion during and after patterning.” *Id.* at 5:30–35, 9:42–53. The Court finds that the specification aligns with CelLink’s proposed plain and ordinary meaning of “as long as.” Accordingly, the Court concludes that no construction is necessary for this term.

ii. “of [at] least about .2 W/mK” (’459 Patents, claim 8)⁴

CelLink’s Proposed Construction	Manaflex’s Proposed Construction
Not indefinite.	Indefinite.
No construction needed. Plain and ordinary meaning.	

Manaflex contends that this claim term is indefinite, arguing that “there is nothing in the intrinsic record indicating what ‘about’ means.” Manaflex Br. at 13–15. Manaflex specifically argues that there is “not a single word [] in the intrinsic record providing guidance about how much lower one can go than ‘.2 W/mK’ and still be within the scope of the claims.” *Id.* CelLink counters that “the specification provides valuable context for the POSITA and informs with reasonable certainty the scope of dependent claim 8.” CelLink Br. at 12. CelLink argues that the

⁴ CelLink represents that the term “of least about .2 W/mK” contains a typographical error and is meant to read “of at least about .2 W/mK.” CelLink Br. at 11–12. CelLink asks the Court to correct this typographical error. *Id.* Manaflex does not appear to oppose this request. Manaflex Br. at 13–15. The Court grants CelLink’s request, as “the correction is not subject to reasonable debate based on consideration of the claim language and the specification and [] the prosecution history does not suggest a different interpretation of the claims.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003).

1 specification “provides examples of the adhesive’s range of thermal conductivity falling above 0.2
 2 W/mK” and “that a higher W/mK is preferred for the adhesive is plainly consistent with dependent
 3 claim 8’s requirement that the adhesive be thermally conductive.” *Id.* at 12–13. CelLink further
 4 argues that “Manaflex has failed to carry the burden of proving indefiniteness by clear and
 5 convincing evidence[,]” as the term “‘of [at] least about .2 W/mK’ does not communicate an
 6 impermissibly vague lower limit of the adhesive’s thermal conductivity.” *Id.* at 13–14.

7 A claim is invalid for indefiniteness “if its language, when read in light of the specification
 8 and the prosecution history, ‘fail[s] to inform, with reasonable certainty, those skilled in the art
 9 about the scope of the invention.’” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370
 10 (Fed. Cir. 2014) (quoting *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014)).
 11 “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v.*
 12 *Publications Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). Although CelLink correctly notes
 13 that terms of degree are not inherently indefinite, such terms must “provide[] enough certainty to
 14 one of skill in the art when read in the context of the invention.” *Interval Licensing*, 766 F.3d at
 15 1370. Here, the specification describes an embodiment in which the “[s]econd insulator 250 (or
 16 first insulator 240) may be or may comprise a thermally conductive mounting adhesive” and
 17 further states that the “adhesive may have a thermal conductivity of [at] least about 0.2 W/mK
 18 (e.g., about 0.7 W/mK) or even at least about 1.0 W/mK.” ’459 Patent at 14:66–15:3. Although
 19 the specification does not explicitly state the minimum W/mK necessary to satisfy the “of [at]
 20 least about .2 W/mK” limitation, during the hearing, CelLink represented it would be amenable to
 21 the construction “of at least 0.2 W/mK.” The specification supports this construction, as it
 22 provides examples of thermal conductivity of at least 0.2 W/mK. *See id.* Accordingly, the Court
 23 adopts the construction “of at least 0.2 W/mK.”

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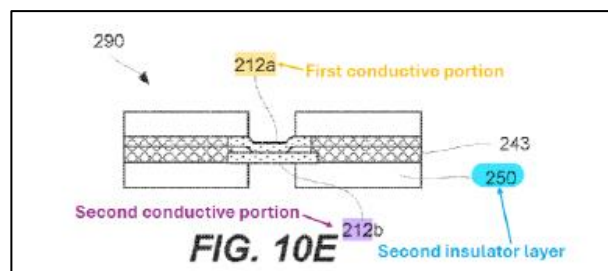
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iii. “second insulator is laminated to the conductive layer through the additional conductive portion” (’459 Patent, claim 18)

CellLink’s Proposed Construction	Manaflex’s Proposed Construction
Not indefinite. No construction necessary. Plain and ordinary meaning.	Indefinite.

The parties’ dispute over this term centers around the word “through.” Manaflex argues that this term “is indefinite because it is nonsensical” Manaflex Br. at 20. To fully understand Manaflex’s argument, a brief technical overview is necessary. Claim 1 of the ’459 Patent claims a method comprising “patterning the conductive layer . . . wherein[] patterning the conductive layer forms a *first conductive portion* and a *second conductive portion* of the conductive layer, at least partially separated from the first conductive portion[,]” “laminating a first insulator to the first side of the conductive layer[,]” and “laminating a second insulator to the second side of the conductive layer while the first insulator remains laminated to the first side of the conductive layer” ’459 Patent, cl. 1 (emphasis added). Claim 17, which depends from claim 1, further comprises “*stacking an additional conductive portion over the first conductive portion* along a thickness of the flexible interconnect circuit, wherein the additional conductive portion and the first conductive portion are interconnected.” *Id.*, cl. 17 (emphasis added). Claim 18, which depends from claim 17, further requires that “the second insulator is laminated to the conductive layer *through the additional conductive portion.*” *Id.* cl. 18 (emphasis added).

Manaflex argues that claim 1’s requirement of “laminating a second insulator to the second side of the conductive layer” contradicts claim 18’s requirement that the “second insulator is laminated to the conductive layer through the additional conductive portion.” Manaflex Br. at 21. In so arguing, Manaflex relies on the following annotated version of Figure 10E of the ’459 Patent:



Id. Manaflex argues that the “second insulating layer 250 is shown attached to one side of *added* ‘second’ conductive portion (212b), not to the conductive layer (as is required by claim 1)[,]” and that “the second insulating layer 250 is not attached to the conductor layer ‘through the additional conductive portion’ 212b (as required by claim 18).” *Id.* Manaflex argues that “[c]laim 18—which incorporates the requirements of claims 1 and 17—thus makes no sense.” *Id.* Manaflex’s argument essentially boils down to whether the word “through” requires that the second insulating layer be physically connected to the conductive layer.

Cellink counters that the word “through” means “by the means or instrumentality of,” and therefore does not necessarily require that the second insulating layer be connected to the conductive layer itself. Cellink Br. at 20–21. Cellink further argues that portions of the specification use the word “through” in a manner consistent with the plain and ordinary meaning (i.e., “by the means or instrumentality of”). *Id.*

The Court agrees with Cellink. Neither the claims nor specification support Manaflex’s narrowing construction. In fact, the specification’s use of the word “through” supports Cellink’s position. *See* ’459 Patent at 14:1–3 (“First insulator 240 may comprise insulator adhesive 241, which may be activated **through** a combination of heat, UV light, and/or pressure.”) (emphasis added), 14:63–65 (“Second insulator 250 may comprise a second insulator adhesive, which may be activated **through** a combination of heat, UV light, and/or pressure.”) (emphasis added). Additionally, as reflected in Figure 10E, one could understand the second insulator to be laminated to the conductive portion through (i.e., by means of) the additional conductive portion. Manaflex has not shown that the language of claim 18, “when read in light of the specification and the prosecution history, ‘fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.’” *Interval Licensing*, 766 F.3d at 1370. Accordingly, the Court finds this term is not indefinite and does not require construction.

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iv. “separated by [a first/second . . .]” (’459 Patent, claim 1)

CellLink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning.	“divided by”

Manaflex contends that its construction “flows from the general meaning of ‘separated by’ and its use in the ’459 [P]atent.” Manaflex Br. at 22. Manaflex argues that “separate” “generally means ‘to set or keep apart’ or ‘to become divided’” and that claim 1 “uses the phrase, ‘separated by’ to describe how ‘pattern openings’ divide/keep apart a ‘third conductive portion’ from other conductive portions” *Id.* CellLink counters that this term is “unambiguous and needs no construction.” CellLink Br. at 21. CellLink further argues that “swapping ‘divided by’ for ‘separated by’ would improperly narrow the claim, as it would suggest that a pattern opening divides the third conductive portion.” *Id.* at 22. The Court agrees with CellLink.

“It is axiomatic that [the Court] will not narrow a claim term beyond its plain and ordinary meaning unless there is support for the limitation in the words of the claim, the specification, or the prosecution history.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1333 (Fed. Cir. 2013). Here, Manaflex’s proposed construction is without support, as none of the claim language, specification, or prosecution history suggest the patentee intended “separated by” to mean “divided by.” *See* ’459 Patent at 9:14–18 (“Third portion 212c may be separated from each of first conductive portion 212a and second conductive portion 212b by slits or pattern openings 230a-230b, both of which are referred to as pattern openings 230a-230b for conciseness.”), 10:60–65 (“For example, when third portion 212c is present, it may be physically separated and electrically disconnected from first conductive portion 212a and second conductive portion 212b by previously formed pattern openings 230a and 230b”). Manaflex’s proposed construction appears to be supported by nothing more than attorney argument. In fact, Manaflex acknowledges that “[s]eparate” generally means ‘to set or keep apart’ or ‘to become divided’” but fails to explain why “separated by” should be construed as “divided by” instead of “to set or keep apart by.” The Court sees no reason to depart from the plain and ordinary meaning with respect to this term. Accordingly, the Court finds no construction is necessary for this term.

v. “insulator” (’459 Patent, claims 1, 5–6, 8, 13–16, 18, 20, 23–24; ’070 Patent, claims 1–6)

CellLink’s Proposed Construction	Manaflex’s Proposed Construction
“An insulating layer, permanent insulator, or electrical insulator, that may be thermally conductive.”	“material with a high electrical resistance”

CellLink asks the Court to construe “insulator” as “[a]n insulating layer, permanent insulator, or electrical insulator, that may be thermally conductive.” CellLink Br. at 14–15. CellLink argues that “the patentee set out a definition of ‘insulator’ in the patent specification” and that its definition is “consistent with that definition. *Id.* at 14. Manaflex counters that CellLink’s construction “slightly alter[s] the patent’s description[,]” and if the Court adopts the patent’s description of insulator, it should adopt the description verbatim. Manaflex Br. at 15–16. Manaflex asks the Court to construe “insulator” as “material with a high electrical resistance.” Manaflex Br. at 14–15. Manaflex argues that its construction “flows from the well-understood meaning of ‘insulator’ and the patent’s use of the term.” *Id.* at 15. CellLink counters that Manaflex’s proposed construction “fails to account for the specification’s express definition of ‘insulator’” and “would improperly introduce ambiguity into the claim terms.” CellLink Br. at 14.

“When a patentee explicitly defines a claim term in the patent specification, the patentee’s definition controls.” *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1380 (Fed. Cir. 2009). Here, the specification explicitly states that “[t]he term ‘insulator’ is used *interchangeably* with the following terms: ‘insulating layer,’ ‘permanent insulator,’ and/or ‘electrical insulator.’” ’459 Patent at 6:4–6 (emphasis added). The specification further states that “the permanent insulator may be thermally conductive, even though it is electrically insulating.” *Id.* at 6:6–8. The specification’s clear instruction that the “permanent insulator may be thermally conductive,” combined with the explicit teaching that “insulating layer,” “permanent insulator,” and “electrical insulator” are interchangeable, supports CellLink’s proposed construction. It is clear that the patentee acted as its own lexicographer in defining the term “insulator.” *See Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (“To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term’ other than its plain and

ordinary meaning.”) (citation omitted). The Court therefore adopts CelLink’s proposed construction.

vi. “pattern opening(s)” (’459 Patent, claims 1, 3, 13; ’070 Patent, claims 11–15)

CelLink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning.	“gaps, slits, or other spaces formed from patterning”

Manaflex argues that construing the term “pattern opening(s)” to mean “gaps, slits, or other spaces formed from patterning” is needed for two reasons. Manaflex Br. at 16. First, “to make clear [] that openings can include small spaces such as slits (which is important for prior art purposes)[,]” and second, “to make clear . . . that the ‘*pattern* openings’ are openings formed from the patterning.” *Id.* (emphasis in original). CelLink counters that Manaflex’s proposed construction “improperly attempts to narrowly construe ‘pattern opening(s)’ contrary to the plain language of the claims and specification” CelLink Br. at 18.

Manaflex’s first argument is not persuasive. Manaflex argues that “the construction should make clear that small spaces, such as slits, are included,” as “there is a danger that one could (wrongly) take some of the patent language to suggest that a ‘slit’ is different from an ‘opening.’” Manaflex Br. at 16. However, Manaflex’s construction improperly narrows the scope of “pattern opening(s)” to only include “gaps, slits, or other spaces.” Although the specification of the ’459 and ’070 Patent states that the “pattern opening” may be a “slit” or “gap,” it does not suggest that the “pattern opening” is limited to a “slit” or “gap.” ’459 Patent at 9:14–16, 11:22–24; *see also* ’070 Patent at 9:14–16, 11:22–24. Moreover, CelLink appears to agree that the term “pattern opening” “should be construed broadly” to “encompass ‘slits’ in addition to openings of other sizes.” CelLink Reply Br. at 10. Accordingly, the Court finds that Manaflex’s proposed construction improperly narrows the scope of “pattern openings” to “gaps, slits, or other spaces.” *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1346 (Fed. Cir. 2015) (“While the specification discloses examples and embodiments where the virtual classroom is depicted as a ‘map’ or ‘seating chart,’ nowhere does the specification limit the graphical display to those examples and embodiments. This court has repeatedly ‘cautioned against limiting the claimed

invention to preferred embodiments or specific examples in the specification.”) (citation omitted).

The Court finds Manaflex’s second argument more persuasive. Manaflex argues that “[t]he word ‘pattern’ before ‘pattern opening(s)’ makes clear that . . . [t]he openings are created by the claimed patterning.” Manaflex Br. at 16. CelLink makes two counterarguments: (1) there is no requirement that the “pattern opening be ‘formed from patterning[,]’” and (2) Manaflex’s construction “risks improperly adding an additional limitation to claim 1 of the ’459 Patent by requiring that the ‘pattern opening’ be formed through laser patterning, which is not part of the claim.” CelLink Br. at 17–18. CelLink’s counterarguments are unpersuasive.

The specification provides strong support for Manaflex’s argument that the “pattern opening” must be an “opening formed from patterning.” The specification explicitly states that a “[p]attern opening may be formed by techniques including, but not limited to, chemical etching, laser ablation, mechanical grinding,” and peeling. ’459 Patent at 2:14–16; *see also id.* at 10:28–40 (describing pattern opening produced by chemical etching), 11:15–25 (describing pattern opening produced by mechanical cutting), 11:51–12:8 (describing pattern opening produced by laser cutting), 12:9–16 (describing pattern opening produced by laser ablation), 12:21–30 (describing pattern opening produced with two or more techniques). Additionally, the specification appears to distinguish between “openings” and “pattern openings.” *Compare* ’459 Patent at 5:48–66 (“[I]n some embodiments, the insulator, which is added after patterning, may include openings [T]hese openings may be formed prior to lamination of the insulator to the conductive layer and may be referred to as ‘back-bared’ circuit openings.”), *with id.* at 3:7–8 (“In some embodiments, patterning the conductive layer forms one or more pattern openings in the conductive layer.”). *See also id.* at 2:34–42 (“In some embodiments, the first insulator comprises an opening, prior to laminating the first insulator to the conductive layer.”).

CelLink’s counterarguments are further undermined by the fact that CelLink’s plain and ordinary meaning would render the word “pattern” in the term “pattern opening” meaningless.⁵ Such an outcome runs contrary to Federal Circuit precedent. *See Wasica Fin. GmbH v. Cont’l*

⁵ CelLink argues that “the plain and ordinary meaning of ‘pattern opening’ would mean an opening formed in a layer being patterned.” Dkt. No. 163 at 10.

Auto. Sys., Inc., 853 F.3d 1272, 1288 (Fed. Cir. 2017) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.”); *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (“Allowing a patentee to argue that physical structures and characteristics specifically described in a claim are merely superfluous would render the scope of the patent ambiguous, leaving examiners and the public to guess about which claim language the drafter deems necessary to his claimed invention and which language is merely superfluous, nonlimiting elaboration. For that reason, claims are interpreted with an eye toward giving effect to all terms in the claim.”). Accordingly, the Court adopts the construction “opening(s) formed by patterning.”⁶

vii. “positioned between the first conductive portion and the second conductive portion” (’070 Patent, claims 5–6, 10, 20)

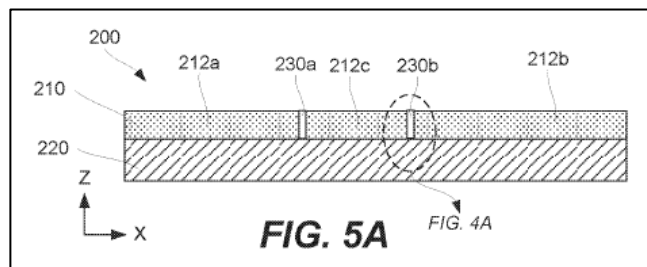
CellLink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning.	“spanning from the first to the second conductive portions”

The parties’ dispute over this term centers on the word “between.” Manaflex contends that this term should be construed to mean “spanning from the first to the second conductive portions,” Manaflex Br. at 17–19, and CellLink counters that the term does not need to be construed. CellLink Br. at 19–20.

To fully understand the parties’ dispute, a brief technical overview is necessary. Claim 1 of the ’070 Patent recites “[a] method of forming an interconnect circuit, the method comprising . . . patterning the conductive layer . . . wherein patterning the conductive layer forms a first conductive portion and a second conductive portion of the conductive layer, at least partially

⁶ CellLink also argues that Manaflex’s construction “would ignore the specification’s instruction that a pattern opening could be formed through other methods, such as peeling undesirable pieces of the conductive layer.” Dkt. No. 163 at 10; see also Dkt. No. 157 at 18. The Court disagrees for at least two reasons. First, the specification lends support to the argument that peeling can be one of the techniques used to form a “pattern opening.” See ’459 Patent at 12:31–64 (explaining that pattern openings “may have variable width” to “assist with removal of undesirable portions of conductive layer” and describing use of peeling process to remove undesirable portion of conductive layer). Second, even if peeling is not a technique used to form a “pattern opening,” the removal of the undesirable portions of the conductive layer may be considered a step distinct from the creation of a “pattern opening.”

separated from the first conductive portion” ’070 Patent cl. 1. Claim 5, which depends from claim 1, further recites a limitation “wherein patterning the conductive layer further forms a third portion of the conductive layer position *between* the first conductive portion and the second conductive portion of the conductive layer” *Id.* cl. 5 (emphasis added). This is illustrated in Figure 5A, which reflects the first conductive portion 212a, the second conductive portion 212b, and the third conductive portion 212c. *Id.* Fig. 5A. Manaflex argues that Figure 5A shows the third conductive layer 212c “goes from the first [conductive] portion 212a to the second [conductive portion] 212b[,]” which is consistent with its proposed construction. Manaflex Br. at 18.



CellLink counters that Manaflex’s proposed construction improperly narrows the scope of the claims because it requires the conductive portions “be in contact.” CellLink Br. at 19. CellLink argues that Figures 5A and 5B “show the ‘[t]hird portion 212c may be separated from each of the first conductive portion 212a and second conductive portion 212b by slits or pattern openings 230a-230b[,]’” and therefore the conductive portions do not necessarily need to be in contact. *Id.* at 20 (quoting ’070 Patent at 9:11–14). CellLink further argues that a “POSITA would understand the term ‘positioned between the first conductive portion and the second conductive portion’ refers to some portion of the conductive layer located *between* the first conductive portion and second conductive portion.” *Id.* at 19 (emphasis in original).

The Court is not persuaded by Manaflex’s arguments. As an initial matter, Manaflex’s proposed construction appears to be undermined by the specification of the ’070 Patent. In describing Figures 5A and 5B, the specification states that “when third portion 212c is present, it may be *physically separated* . . . from first conductive portion 212a and second conductive portion 212b by previously formed pattern openings 230a and 230b” ’070 Patent at 10:57–61

(emphasis added). That the third conductive portion can be physically separated from the first and second conductive portions suggests that the third conductive portion is not required to “span[] from the first to the second conductive portions.”⁷ The Court is further persuaded by CelLink’s analogy to a boat sailing up a river:

A boat sailing up a river may readily be said to be “positioned between” the first shore and the second shore. Yet it would make little sense in plain English to say the same boat “spans” the first shore and the second shore.

Instead, the term “span” is more applicable to a bridge, something which reaches from one to the other, occupying the entire distance in between.

Meanwhile, the boat, though it may be closer to one shore or the other, or precisely in the middle, is always “positioned between” the shores.

CelLink Reply Br. at 10. Here, there is no language in the claims or specification to suggest that the third conductive portion needs to “span,” or “reach,” from the first to second conductive portion. The Court therefore sees no reason to construe the term “positioned between the first conductive portion and the second conductive portion” to mean “spanning from the first to the second conductive portions.” Accordingly, the Court finds no construction is necessary for this term.

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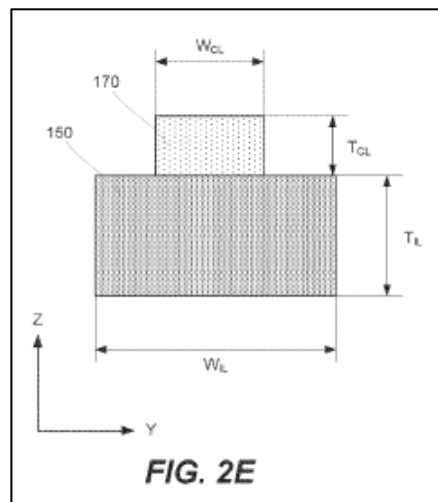
⁷ It also seems that Manaflex’s proposed construction, if adopted, would introduce ambiguity into scope of the claims. For example, despite arguing that the third conductive portion must “span[] from the first to the second conductive portions,” Manaflex argues that the “third conductive [portion] 212c . . . can still generally be described as spanning from the first to the second portions” when “slits 230a-230b” separate the third conductive portion from the first and second conductive portion. Manaflex Br. at 18. Instead of addressing this contradiction, Manaflex argues that “claim terms do not need to be defined with ‘mathematical precision.’” *Id.*

B. The '511 Patent

i. “freestanding” (claim 5)

Cellink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning (i.e., “not mechanically supported by a supporting layer”)	[the fusible link] “does not have any portions of an insulating layer attached to it”

Manaflex asks the Court to construe the term “freestanding” to mean “does not have any portions of an insulating layer attached to it.” Manaflex Br. at 23–26. Manaflex argues that “[d]ependent claim 5 is the only claim in the ’511 [P]atent to use ‘freestanding’; and it uses it to describe a fusible link that is not attached to (and also therefore not supported by) an insulator.” *Id.* at 23. Cellink does not offer an alternative construction and instead argues that this term should be given its plain and ordinary meaning, as “Manaflex’s proposed construction violates the canon against surplusage.” Cellink Br. at 23. However, during the hearing, Cellink proposed the plain and ordinary meaning to be “not mechanically supported by a supporting layer.” Both parties argue that Figure 2E, reproduced below, and its corresponding description in the specification support their construction.



Id. Fig. 2.

The Court finds that the Figure 2E and its corresponding description support Manaflex’s proposed construction. As Manaflex points out, Figure 2E shows that “a portion of insulating layer 150 may be located near fusible link 170 to provide mechanical support” ’511 Patent at 16:34–38. The specification goes on to say that “[i]n other embodiments, no portion of the

1 insulating layer 150 is attached to fusible link 170, and fusible link 170 remains freestanding.” *Id.*
2 at 16:44–46. This description suggests that when the fusible link is freestanding, “no portion of
3 the insulating layer [] is attached to the fusible link.”

4 CelLink argues that “Manaflex’s construction [] renders the existing ‘does not overlap’
5 language superfluous[,]” because “if the fusible link is attached to an insulating layer, it must
6 necessarily also overlap with the same.” CelLink Br. at 23. Manaflex counters that there is no
7 redundancy, as “[t]wo items can overlap one another without being attached to one another (e.g., a
8 stack of papers).” Manaflex Br. at 25. The Court agrees with Manaflex. Whether the fusible link
9 has “any portions of an insulating layer attached to it” and whether the fusible link “does not
10 overlap with the insulating layer” are two distinct inquiries. The fusible link may in fact have
11 portions of an insulating layer attached to it without overlapping with the insulating layer.

12 CelLink does not refute this argument and does not otherwise explain how construing this term to
13 mean “does not have any portions of an insulating layer attached to it” renders the “does not
14 overlap with the insulating layer” language in claim 5 superfluous or redundant.

15 Additionally, CelLink’s plain and ordinary meaning proposal risks introducing ambiguity
16 into the claims. CelLink does not explain what “mechanically supported” and “supporting layer”
17 mean or how a POSITA would interpret these terms. Moreover, these terms are not so irreducible
18 that they “resolve the parties’ dispute.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521
19 F.3d 1351, 1361 (Fed. Cir. 2008) (“A determination that a claim term ‘needs no construction’ or
20 has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’
21 meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.”).
22 Accordingly, the Court adopts Manaflex’s proposed construction: “does not have any portions of
23 an insulating layer attached to it.”

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ii. “increasing fatigue life” (claim 1)

CellLink’s Proposed Construction	Manaflex’s Proposed Construction
Not indefinite. No construction necessary. Plain and ordinary meaning.	Indefinite.

Claim 1 recites “[a]n interconnect circuit for interconnecting battery cells, the interconnect circuit comprising: a conductive layer . . . wherein . . . the conductive layer is a rolled metal foil comprising aluminum that has an in-plane elongated grain structure thereby increasing fatigue life of the fusible link” ’511 Patent cl. 1. Manaflex argues that the term “increasing fatigue life” is indefinite, because the claim fails to specify the “reference material to compare the rolled aluminum to.” Manaflex Br. at 26. Manaflex argues that “if the reference material has a better fatigue life than then ‘rolled metal foil,’ then the limitation is not met.” *Id.* at 27. “But if the reference material has a poorer fatigue life than the exact same rolled metal foil, then the claim limitation is met.” *Id.* In essence, Manaflex argues this term is indefinite because “there is no standard by which to judge whether th[e] increase [in fatigue] life has occurred” *Id.* at 27–28.

CellLink counters that this term is not indefinite. CellLink, relying on the specification, argues that a POSITA would “understand[] that a rolled metal foil, because its grain structure is elongated along the horizontal plane, is more resistant to crack propagation.” CellLink Br. at 25. CellLink further argues that “[t]his resistance to crack propagation increases the fatigue life of the relevant component compared to the same component when manufactured using different techniques that produce vertical grain structures.” *Id.* CellLink asks the Court to construe this term according to its plain and ordinary meaning. *Id.* at 26.

The Court finds the term “increasing fatigue life” is indefinite. As explained above, a claim is invalid for indefiniteness only if, by clear and convincing evidence, “its language, when read in light of the specification and the prosecution history, ‘fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention.’” *Interval Licensing*, 766 F.3d at 1370. Here, the specification states that, “[i]n contrast to the vertical grain structure associated with electrodeposited foil and/or plated metal,” the “horizontally-elongated grain structure of

1 rolled metal foil **may** help increase the resistance to crack propagation in conductor [] under []
 2 cyclical loading conditions.” *Id.* at 42:10–15 (emphasis added). The specification further states
 3 that this increase in resistance to crack propagation “**may** help increase the fatigue life of fuse []
 4 and other regions and traces of conductor [.]” *Id.* at 42:15–16 (emphasis added). Notably, the
 5 specification does not describe a reference point that can be used to determine whether the “rolled
 6 metal foil” actually increases the resistance to crack propagation or fatigue life or otherwise
 7 describe the circumstances in which the use of “rolled metal foil” will increase the resistance to
 8 crack propagation or fatigue life.

9 The specification’s lack of reference point does not in itself render claim 1 indefinite.
 10 However, claim 1 expressly recites that the “the conductive layer is a rolled metal foil comprising
 11 aluminum that has an in-plane elongated grain structure **thereby increasing fatigue life of the**
 12 **fusible link . . .**” ’511 Patent cl. 1 (emphasis added). The plain language therefore requires that
 13 there actually be an increase in fatigue life.⁸ But in order to determine whether there is an increase
 14 in fatigue life, there must be a point of comparison. CelLink argues that a reference point is not
 15 necessary, because the “rolled metal foil” inherently increases fatigue life. But if that was the
 16 case, claim 1 would not need to explicitly recite that the “conductive layer,” which is a “rolled
 17 metal foil,” increases fatigue life. Moreover, the specification’s statement that “rolled metal foil”
 18 **may** increase fatigue life undermines CelLink’s argument. The Court agrees with Manaflex that
 19 the specification fails to explain (1) “in what circumstances” the fatigue life will increase and (2)
 20 “the metals and thickness of the ‘electrodeposited’ and ‘plated metals’ [] that are used for
 21 comparison purposes.” Manaflex Br. at 27.

22 CelLink argues that “courts have found terms using ‘increase’ without any explicitly
 23 identified reference material to have ‘readily understandable’ plain meanings that require no

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 25 ⁸ At the hearing, CelLink was asked whether the claims of the ’511 Patent actually require an
 26 increased fatigue life. CelLink was unable to provide a clear answer. However, the Court finds
 27 that the inclusion of the language “thereby increasing fatigue life of the fusible link” in claim 1
 28 necessitates an increased fatigue life. If that was not the case, this language would be superfluous.
See Curtiss-Wright Flow Control Corp. v. Z & J Techs. GmbH, 563 F. Supp. 2d 1109, 1129 (C.D.
 Cal. 2007) (“The Federal Circuit has generally held that claim constructions which render a
 portion of the claim language superfluous are disfavored.”) (citing *Pickholtz v. Rainbow Techs.,*
Inc., 284 F.3d 1365, 1373–74 (Fed. Cir. 2002)).

further construction.” CelLink Reply Br. at 15. However, the cases on which CelLink relies are distinguishable. For example, in *Endo Pharms. Inc. v. Watson Lab ’ys, Inc.*, the parties disputed the construction of the term “with increased penetration.” No. 2:13-CV-192-JRG, 2014 WL 2859349, at *3 (E.D. Tex. June 23, 2014). The defendant argued the term was indefinite, but the court disagreed.⁹ The court explained that “[w]ords of degree can be problematic where they require a subjective inquiry” but found the term “with increased penetration” was not subjective, as “[o]ne skilled in the art would understand that any amount of increase in penetration would meet this language.” *Id.* However, the court expressly noted that “the Federal Circuit has required that a patent containing claims requiring [] a subjective inquiry provide an ‘objective anchor’ that identifies the bounds of the claim.” *Id.* Here, the ’511 Patent fails to provide an “‘objective anchor’ that identifies the bounds of the claims.” *Id.* The determination of “increased fatigue life” is entirely subjective, as the type and thickness of metal used are factors which impact whether there is an increase in fatigue life.

The dispute here is more analogous to the one in *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, in which the Federal Circuit found the term “glycosylation which differs from that of human urinary erythropoietin [uEPO]” to be indefinite. 314 F.3d 1313, 1340 (Fed. Cir. 2003). The Federal Circuit explained that “[b]y definition, one must know what the glycosylation of uEPO is with certainty before one can determine whether the claimed glycoprotein has a glycosylation different from that of uEPO” and the “primary difference [in the parties’ constructions] concerned which, if any, techniques were acceptable to determine whether the glycosylation was different.” *Id.* The Federal Circuit ultimately found the term indefinite, as the “specification of the [] patent does not direct those of ordinary skill in the art to a standard by which the appropriate comparison can be made.” *Id.* Here, too, the ’511 Patent specification fails to teach how one would determine whether the “rolled metal foil . . . thereby increase[ed] fatigue life.” The Court therefore finds this term indefinite.

⁹ Notably, the term “with increased penetration” was found in the preamble of a method claim. The court found that the term was “simply a statement of intended result or purpose to be accorded no weight, and therefore, no construction of the term [was] necessary.” 2014 WL 2869349 at *8. Here, however, claim 1 of the ’511 Patent is an apparatus claim.

iii. “overlap”; “overlaps”; “overlapping” (claims 5–6, 8–9, 18, 20)

CellLink’s Proposed Construction	Manaflex’s Proposed Construction
No construction necessary. Plain and ordinary meaning.	“extend over at least a part of”; “extends over at least a part of”; “extending over at least a part of”

The parties resolved their dispute as to the scope of this claim term after the hearing and submitted a stipulated construction of “overlap,” “overlaps,” and “overlapping” as “partially or fully [overlap, overlaps, overlapping].” Dkt. No. 177. Accordingly, the Court adopts the construction “partially or fully [overlap, overlaps, overlapping].”

IV. CONCLUSION

The Court construes the claim terms as follows:

Claim Term	Adopted Construction
“at least partially damages the substrate such that the substrate is able to maintain the orientation of the first conductive portion relative to the second conductive portion during and after patterning” (’459 Patent)	No construction necessary
“of least about .2 W/mK” (’459 Patent)	“of at least 0.2 W/mK”
“second insulator is laminated to the conductive layer through the additional conductive portion” (’459 Patent)	Not indefinite; no construction necessary
“separated by [a first/second...]” (’459 Patent)	No construction necessary
“insulator” (’459 and ’070 Patent)	“an insulating layer, permanent insulator, or electrical insulator, that may be thermally conductive”
“pattern opening(s)” (’459 and ’070 Patent)	“opening(s) formed by patterning”
“positioned between the first conductive portion and the second conductive portion” (’459 and ’070 Patent)	No construction necessary
“freestanding” (’511 Patent)	“does not have any portions of an insulating layer attached to it”
“increasing fatigue life” (’511 Patent)	Indefinite


“overlap”; “overlaps”; “overlapping” (‘511 Patent)

“partially or fully [overlap, overlaps, overlapping]”

The Court further **SETS** a telephonic case management conference on November 4, 2025, at 2:00 p.m. The hearing will be held by Public Zoom Webinar. All counsel, members of the public, and media may access the webinar information at <https://www.cand.uscourts.gov/hsg>. All attorneys and pro se litigants appearing for the case management conference are required to join at least 15 minutes before the hearing to check in with the courtroom deputy and test internet, video, and audio capabilities. The Court further **DIRECTS** the parties to meet and confer and submit a joint case management statement by October 28, 2025.

IT IS SO ORDERED.

Dated: 10/3/2025


HAYWOOD S. GILLIAM, JR.
United States District Judge